50X1-HUM

Next 3 Page(s) In Document Denied

Aerial Reconnaissance of Nuclear Attack Means in the Mountains

by
General-Mayor of Aviation I. Lugovtsev
Colonel L. Astapchik

We would like to share some experience in the organization of aerial reconnaissance of nuclear attack means located in a mountainous theater of military operations.*

Reconnaissance flights have shown that under mountainous conditions it is very difficult to detect these means: wooded, sharply broken terrain and large, dense shadows in the morning and evening hours contribute to their reliable camouflage. Therefore, for conducting reconnaissance each crew was assigned only two areas, a main one and an alternate, the alternate area of one crew being the main one for the other. In this way each area was observed twice, which increased the reliability and dependability of the reconnaissance.

It was established that for one pass in an area not larger than 40 square kilometers, a crew in the course of a three-minute flight managed to make a reconnaissance of no more than two targets (this in a case where the crew could spend three to five minutes keying the maps to the terrain before entering the reconnaissance area). As a rule, the crews managed to complete the reconnaissance in an assigned area in two or three passes.

50X1-HUM

---

*This article mainly makes use of the experience of a joint exercise of the rocket troops and reconnaissance aviation which was carried out in May 1966 during unfavorable weather in mountainous-wooded terrain located 500 to 1,800 meters above sea level and broken up by ridges and spurs of mountains, hollows and ravines. IL-28R, IL-28, MIG-15R-bis aircraft, and MI-1 helicopters took part in the reconnaissance flights.

The average time spent by a crew in flight in processing reconnaissance data on one to two detected targets and transmitting them to addressees was 15 minutes for single-seat aircraft and 11 minutes for multi-seat aircraft (after entering the reconnaissance area).*

In the end, thanks to the skilful activities of the crews, almost 80 percent of all nuclear strike means were detected and their coordinates determined with an accuracy of from 40 to 150 meters.

Contributing largely to the successful fulfilment of reconnaissance was the advance preparation of large-scale maps by the crews. Well defined features of the relief on a map made it convenient to use, facilitated the work of the crew in flight, and at the same time contributed to the accomplishment of the assigned task.

Much attention was devoted to determining the readiness time of missile launchers at launch sites. In 70 percent of the cases it was determined with an error limit of 15 to 20 minutes. True, it has to be noted that largely contributing to this was the poor camouflage of the missile and missile-technical units and subunits being reconnoitered, which employed insufficiently effective table-of-equipment camouflage means. For example, monotone (ungarnished) camouflage nets in dry weather sharply reveal a target by their geometric outlines and contrast with the terrain. In damp weather branches and green grass thrown on a net camouflage a target for a limit of one to 1.5 hours and then it all begins to stand out sharply from the natural background. Tarpaulin covers (new and faded) on missiles and carriers also reveal targets. The shadow from a missile placed vertically contributes to the determination of its location. Experience has shown that camouflaged nuclear attack targets are best observed by helicopter and aircraft crews from an altitude of 100 to 300 meters; at greater altitudes, the possibilities of their detection are sharply reduced.

50X1-HUM

---

*It takes considerable time to draft radio messages from secure troop control documents with reencoding of target coordinates taken from a map with a scale of 1:100,000, and the whole process of encoding is relatively complicated, especially for single-seat aircraft. Without reencoding of coordinates, the time of transmission of one report does not exceed a minute.

As is well known, during the interpretation of aerial photographs very much time usually is spent on keying the photographed target to the terrain. In order to reduce this time, it is advisable to conclude the photographing of a detected target at the time when the plane is over a distinctive feature on the map (this will, of course, increase the consumption of film and developing time, but it will significantly facilitate the keying of targets and the determination of their coordinates).

Finally, the experience of aerial reconnaissance in mountains has once again confirmed the necessity of establishing at one of the airfields of the air army a joint photogrammetric center capable of quickly interpreting photographs and reporting exhaustive data to the staff of the rocket troops and artillery by radio (with the use of a radio especially allocated for this); the center would be headed by an officer of the staff of the rocket troops and artillery who knows the organization, the fundamentals of employment, and the reconnaissance indicators of nuclear attack means well.

50X1-HUM

50X1-HUM